



PJM Summer 2008 Reliability Assessment

**Indiana Utility Regulatory
Commission**

June 4, 2008





PJM Load and Capacity Comparison: 2008 vs. 2007

2008

Forecast Load (MW) total	Load Mgt and Contractually Interruptible (MW)	Forecast Load (MW) Less Load Mgmt & Contractually Interruptible	Installed Generation Capacity (MW)	Reserve (MW)	Capacity Margin	Reserve Margin	Required Reserve Margin
137,950	4,460 (est.)	133,490	165,300	31,810	19.2%	23.8%	15.0%

2007

Forecast Load (MW) total	Load Mgt and Contractually Interruptible (MW)	Forecast Load (MW) Less Load Mgmt & Contractually Interruptible	Installed Generation Capacity (MW)	Reserve (MW)	Capacity Margin	Reserve Margin	Required Reserve Margin
136,961	1,620 (est.)	135,341	165,886	30,545	18.4%	22.5%	15.0%

Forecast Load – Expected peak demand, based on normal weather (Total Internal Demand-TID)

Load Management and Contractually Interruptible – Demand Response and other customer load willing to be interrupted

Forecast Load Less Load Management – Expected peak demand after demand response has been implemented (Net Internal Demand-NID)

Installed Generation Capacity – Total MW output of all of the generators within the PJM Balancing Area (Installed Capacity—ICAP)

Reserve (MW) – Installed Generation Capacity minus Net Internal Demand

Capacity Margin (%) -- Reserve expressed as a percent of Installed Capacity

Reserve Margin (%) – Reserve expressed as a percent of Net Internal Demand

Required Reserve Margin (%) – PJM required planning reserve, as determined by the RPM process (Installed Reserve Margin-IRM)

Daily High Temperature					
Date	Baltimore	Chicago	Philadelphia	Richmond	Washington
7/9/2007	97°F	94°F	96°F	96°F	98°F
8/7/2007	97°F	91°F	92°F	97°F	96°F
8/8/2007	102°F	87°F	97°F	104°F	102°F
8/9/2007	94°F	84°F	93°F	100°F	94°F

Departure From Normal					
Date	Baltimore	Chicago	Philadelphia	Richmond	Washington
7/9/2007	10°F	11°F	11°F	9°F	10°F
8/7/2007	11°F	8°F	7°F	10°F	8°F
8/8/2007	16°F	4°F	12°F	17°F	14°F
8/9/2007	8°F	2°F	8°F	13°F	7°F

Peak Load Day 8/8/07 – Extreme heat in the East, cooler in the Midwest—most problematic operating scenario for PJM.

Load Management –11:44-18:35 – BG&E, PEPCO, Dominion, Mid-Atlantic

Implemented Scarcity Pricing–15:05 – 18:12

NERC TEA 1 –15:06-17:34 – Black Oak – Bedington IROL Interface

Shared Reserves –15:21-15:33 – due to NYISO loss of Poletti unit

5% Voltage Reduction –15:55-17:09 - Mid-Atlantic

Shared Reserves –15:57-16:07 – PJM requested from NPCC, for the loss of the Bethlehem Power units (>1,000 MW)

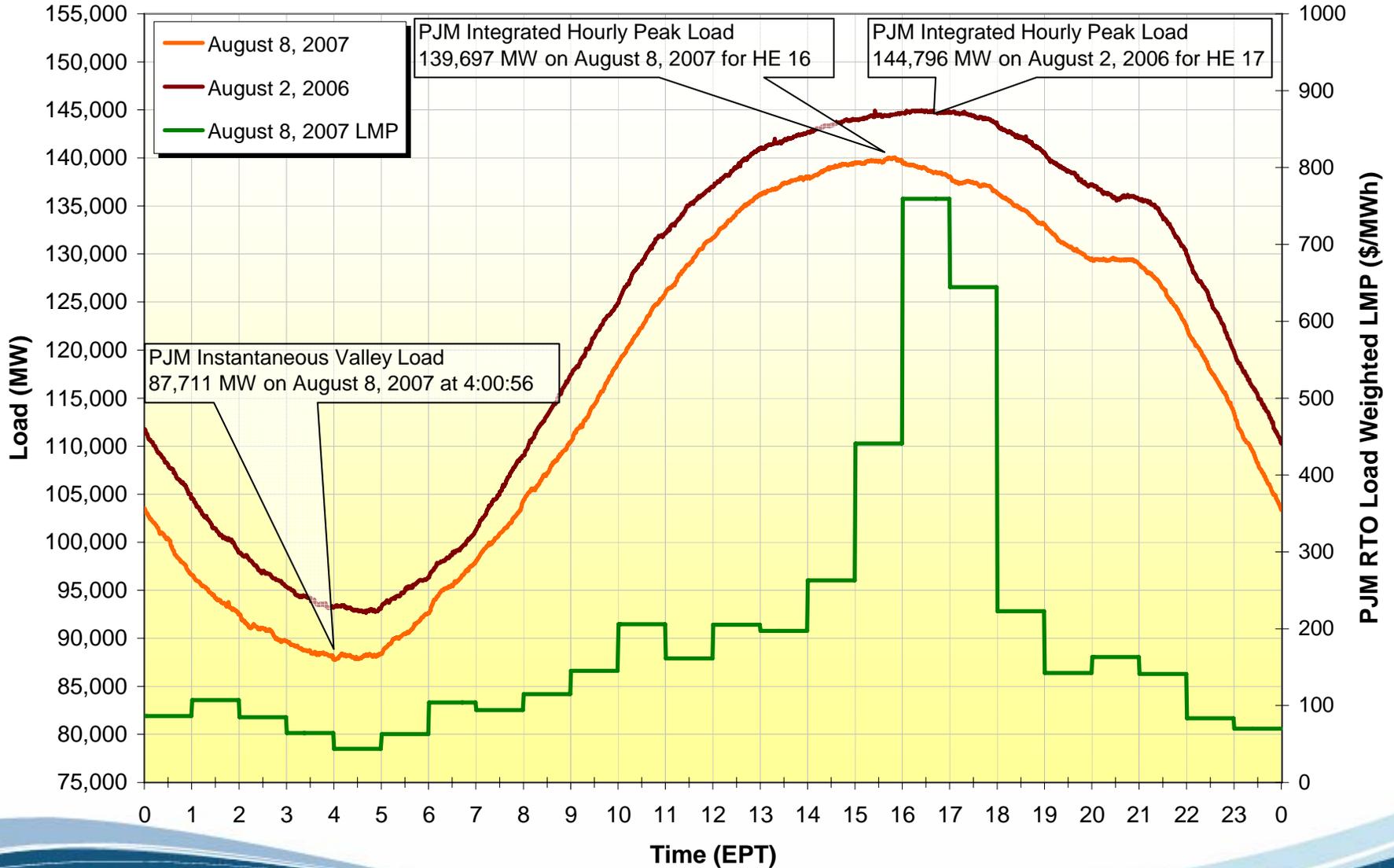
Maximum Emergency Generation Action (Loaded available) –15:57-17:33 – Mid-Atlantic

Manual Load Dump Warning –16:09-17:42 – Mid-Atlantic

Voltage Reduction Warning –16:16-18:53 – Dominion

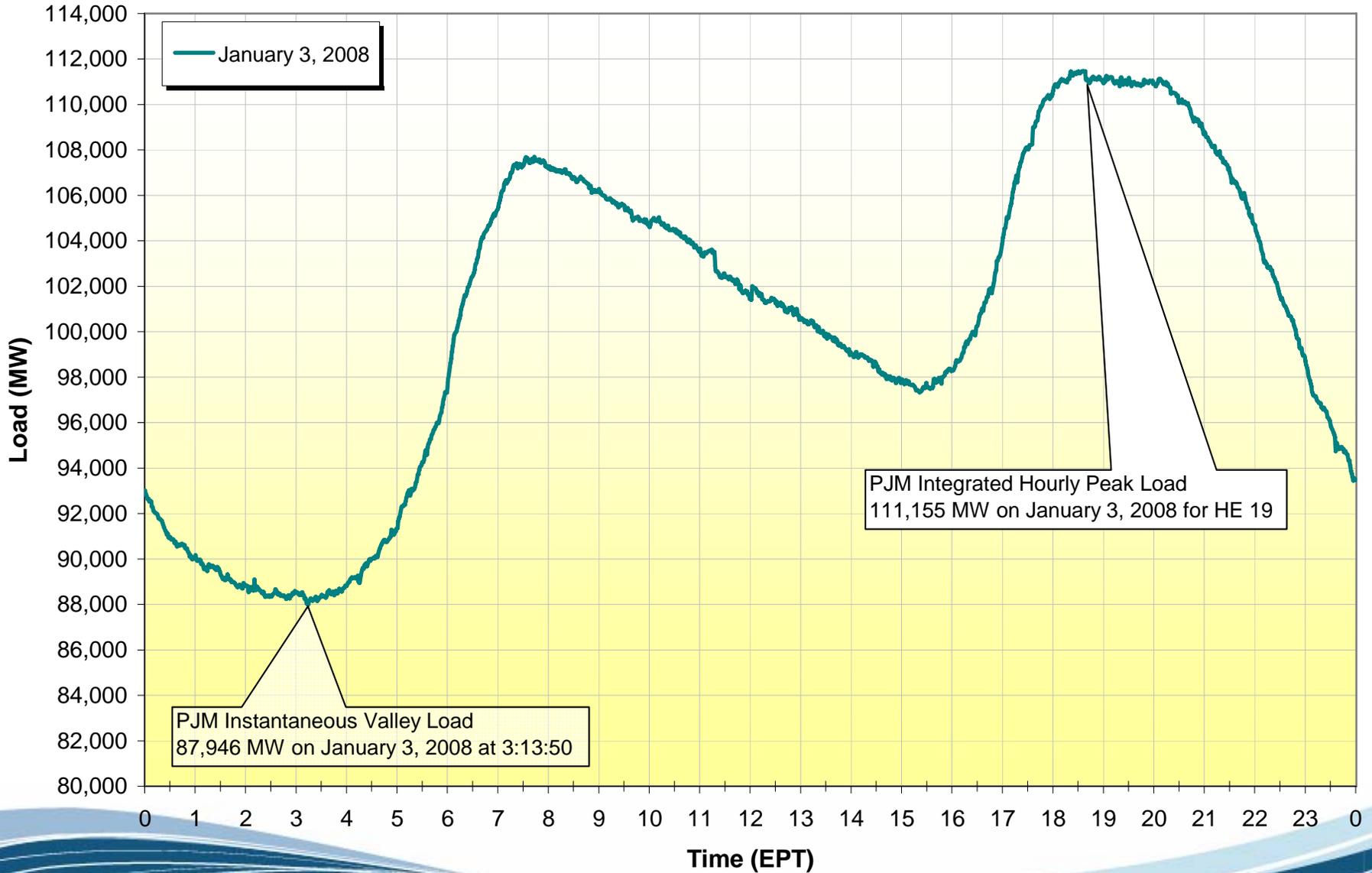
Unexpected (and unfortunate) highlighted events put us deep into emergency procedures, and precipitated the 5% voltage reduction in Mid-Atlantic

PJM RTO Load Comparison



- PJM Operating Analysis Task Force (OATF) Summer Operating Study
- Reliability *First* Summer Assessment
- Joint MISO/PJM Operations Coordination Meeting (May 29)
- PJM Spring Operator Seminar (9 sessions – over 500 operators attended)
- PJM Emergency Procedures Drill (May 20)
- PJM / VACAR South Tabletop Exercise
- Joint NY ISO/PJM Operations Coordination Meeting (May 28)

PJM RTO Winter Peak Load

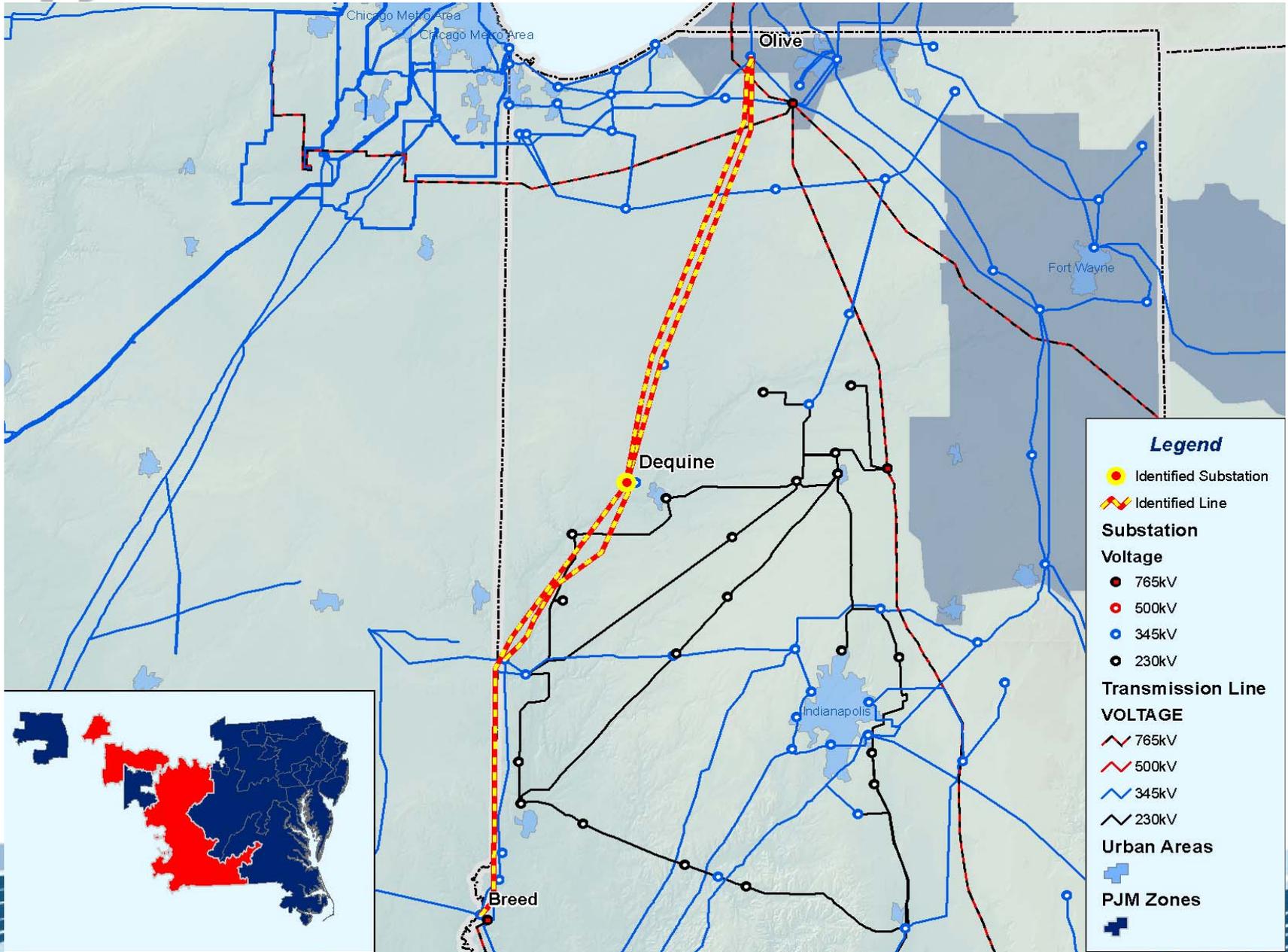


Normal Sequence of Emergency Procedures

- Alerts – Usually, issued the day before the operating day
- Warnings – Usually, issued the morning of the operating day or when the event is imminent
- Actions – At the onset of the event

Communications to Commissions

- Alerts, Warnings, and Actions communicated to via e-mail, all-call message, and personal outreach



Legend

- Identified Substation
- Identified Line

Substation Voltage

- 765kV
- 500kV
- 345kV
- 230kV

Transmission Line VOLTAGE

- 765kV
- 500kV
- 345kV
- 230kV

Urban Areas

- Urban Areas

PJM Zones

- PJM Zones

- PJM expects to be able to reliably serve expected peak loads
- Western PJM system continues to be accessible for import transactions, if necessary. Assuming no unusual events, PJM does not anticipate any problems
- PJM can transmit energy from Eastern PJM to Western PJM and to MISO, if necessary